UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,214	07/28/2003	Steven B. Lonnes	2001.079	5456

7590 11/13/2006

J. Paul Plummer
ExxonMobil Upstream Research Company
P. O. Box 2189
Houston, TX 77252-2189

EXAMINER	
BOMAR, THOMAS S	

ART UNIT	PAPER NUMBER
3672	

DATE MAILED: 11/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/628,214	LONNES ET AL.	
	Examiner	Art Unit	
	Shane Bomar	3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/27/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 27, 2006 has been entered.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 2, 4, 5, 8-11, 13, 14, 17-19, 21-24, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,326,458 to Johnson.

Regarding claims 1, 5, 17, and 19, Johnson discloses a system of two or more valves 122 and 146, wherein said valves operate over a designated pressure interval and are arranged to independently actuate performance of a sequenced set of events by one or more downhole tools based on the application of pressure to said valves (see Figs. 3-5, and col. 5, line 26 through col. 6, line 40, wherein each valve independently causes fluid to be drawn into the pump), and Johnson discloses the associated apparatus comprising a combination of two or more valves 122 and 146 arranged as sub-assemblies wherein one sub-assembly communicates with another sub-assembly through pressure isolating connections (see Fig. 5).

Regarding claims 2, 4, 8-10, 13, 14, 18, 21-23, and 26, each valve 122 and 146 has an annulus around it and is freely inserted and removed from a cavity (see Fig. 3), thereby making each valve a cartridge valve based on Applicant's own definition of cartridge valves. Each valve is a check valve and therefore lets fluid through in only one direction, and only based on specific flow pressures that either overcome, or do not overcome, the bias of springs 118 or 144. Additionally, orifices 112, 134, and 136, for example, are of a predetermined size and therefore limit the flow through the valves to be at a predetermined flowrate (see Figs. 3-5, as well as col. 6, lines 41-65).

Regarding claims 11 and 24, filter 9 acts as a screen and will inherently filter solids from the fluids before flowing through the line 32 and ultimately to the valves (see Fig. 1).

4. Claims 1-3, 12, 17, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by US 3,033,286 to Fast et al.

Fast et al disclose a system of two or more valves 52 and 54, wherein said valves operate over a designated pressure interval and are arranged to independently actuate performance of a sequenced set of events by one or more downhole tools based on the application of pressure to said valves (see Fig. 2, and col. 5, line 34 through col. 6, line 67, wherein valve 52 is a burst disk and is independently ruptured by treating fluid 30 to treat the formation, and valve 54 is operated by rotational pressure from the string to route fluids flowing through the valve accordingly), and Fast et al disclose the associated apparatus comprising a combination of two or more valves 52 and 54 arranged in sub-assemblies 53 and 56, respectively, wherein one sub-assembly communicates with another sub-assembly through pressure isolating connections (see Fig. 2).

Claim Rejections - 35 USC § 103

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 6, 7, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson in view of US 6,131,655 to Shaw.

Johnson teaches the system and apparatus of claims 1 and 17 that include two operational valves for pumping oil from a well. However, it is not expressly taught that the valves operate one or more remote electrical devices that communicate with a command base with, or without, a wireline.

Shaw teaches a system for pumping oil from a well, wherein remote sensors and monitors sense and monitor the operation of the associated the valves and pump, said sensors and monitors communicating equally well with the surface either wirelessly or with a wireline, or cable (see col. 15, lines 45-57). It would have been obvious to one of ordinary skill in the art, having the teachings of Johnson and Shaw before him at the time the invention was made, to modify the system taught by Johnson to include the remote sensors and monitors of Shaw, in order to obtain a system that can send signals and receive information from downhole components. One would have been motivated to make such a combination because the references address the narrow

problem of producing hydrocarbons while avoiding the production of water, therefore a person seeking to solve that exact problem would consult the references and apply their teaching together.

7. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 5,704,426 to Rytlewski et al in view of US 3,237,695 to Bostock et al.

Regarding claim 15, Rytlewski et al teach a method for perforating and treating multiple intervals of one or more subterranean formations intersected by a wellbore, said method comprising the steps of: (a) deploying a bottom-hole assembly ("BHA") from a tubing string within said wellbore, said BHA having a perforating device 152, 154, or 156, and a sealing mechanism 158; (b) using said perforating device to perforate at least one interval of said one or more subterranean formations; (c) positioning said BHA within said wellbore and activating said sealing mechanism so as to establish a hydraulic seal below said at least one perforated interval; (d) pumping a treating fluid down the annulus between said tubing string and said wellbore and into the perforations created by said perforating device (see col. 1, lines 6-16), without removing said perforating device from said wellbore; (e) releasing said sealing mechanism; and (f) repeating steps (b) through (e) for at least one additional interval of said one or more subterranean formations (see Figs. 14a-14d and col. 11, line 34 through col. 12, line 25). It is not expressly taught that at least one of said steps is actuated by a system of two or more valves that operate over a designated pressure interval and is each arranged to independently actuate performance of said step with the application of pressure to said valves.

Bostock et al teach a method for setting a packer using a system of valves (see Figs. 1-3 and 6-8). It is further taught that the system comprises two or more valves 124 and 191 that

operate over a designated pressure interval and each is arranged to independently actuate performance of said step with the application of pressure to said valves (see col. 7, lines 41-60, and col. 7, line 72 through col. 8, line 22). It would have been obvious to one of ordinary skill in the art, having the teachings of Rytlewski et al and Bostock et al before him at the time the invention was made, to modify the method taught by Rytlewski et al to include the valve system for setting a packer of Bostock et al. One would have been motivated to makes such a combination because the new packer will be releasable without the need for longitudinal or rotational movement of inner flow tubes (see col.1, lines 13-37 of Bostock et al), and because Rytlewski et al has provided no specific system for setting packers.

Regarding claim 16, the combination applied to claim 15 above teaches that additional steps are performed including equalizing pressure across said sealing mechanism (see col. 10, lines 60-66 of Bostock et al).

Response to Arguments

8. Applicant's arguments with respect to claims 1, 15, and 17 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Brown, Brown et al, Hugel, Kinney, Martin et al, and Speller teach other valve systems of particular interest.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shane Bomar whose telephone number is 571-272-7026. The examiner can normally be reached on Monday - Thursday from 6:30am to 4:00pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David J. Bagnell
Supervisory Patent Examiner
Art Unit 3672

tsb
November 7, 2006

Jennifer H. Gay
Primary Examiner